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## **SOLID WASTE FACILITY PERMIT**

Under the provisions of N.J.S.A. 13:1E-1 *et seq.* known as the Solid Waste Management Act, this permit is hereby issued to:

### **MERCK & CO., INC.**

Facility Type:	Small-scale Thermal Destruction Facility
Lot No.:	3
Block No.:	21
Municipality:	Branchburg Township
County:	Somerset
Facility Registration No.:	1805001008

This permit is subject to compliance with all conditions specified herein and all regulations promulgated by the Department of Environmental Protection.

This permit shall not prejudice any claim the State may have to riparian land, nor does it allow the permittee to fill or alter or allow to be filled or altered in any way, lands that are deemed to be riparian, wetlands, stream encroachment areas or flood plains, or that are within the Coastal Area Facility Review Act (CAFRA) zone or are subject to the Pinelands Protection Act of 1979, nor shall it allow the discharge of pollutants to waters of this State without prior acquisition of the necessary grants, permits, or approvals from the Department of Environmental Protection.

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Issuance Date

August 14, 2007

Expiration Date

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Thomas Sherman, Assistant Director  
Office of Permitting & Technical Programs

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## Scope of Permit

This Permit, along with the referenced application documents herein specified, shall constitute the sole Solid Waste Facility Permit for the operation of a small-scale thermal destruction facility by Merck & Co. Inc. located in Branchburg Township, Somerset County, New Jersey. The Solid Waste Facility Permit is a permit renewal to the original Solid Waste Facility Permit issued to Merck & Co. Inc. on August 14, 1995. Any registration, approval or permit previously issued to by the Division of Solid and Hazardous Waste or its predecessor agencies is hereby superseded.

This Permit does not convey any property rights of any sort, or any exclusive privilege. Failure to comply with all the conditions specified herein may result in revocation of this Permit and/or may result in such other regulatory or legal actions which the Department is authorized by law to institute.

## Regulated Activities at the Facility

Section I of this Permit contains the general conditions applicable to all solid waste facilities. Section II of this Permit contains general operating requirements for all small-scale thermal destruction facilities that receive, store, process or transfer solid waste and regulated medical waste materials. Section III of this Permit contains specific conditions applicable to the operations of this facility.

## Facility Description

The permitted facility is a privately owned thermal destruction unit operated by Merck & Co., Inc located on a 210 acre tract of land in Branchburg Township. The incinerator services the Merck & Co., Inc.-Branchburg Farm animal research facility involved in the development of new products in the field of animal health. The incinerator is situated in the northern portion of the site. To the east, the site entrance on River Road is located and is in close proximity to the North Branch of the Raritan River. Residential areas characterize properties to the north, west and south; namely Stoney Brook Road to the north, Preston Drive to the south, and Sharon Avenue to the west.

The facility is authorized to accept and process the following waste types originating from the Merck & Co., Inc. Branchburg Farm: Dry Industrial Waste Type #27; and Regulated Medical Waste (RMW) Classes 1, 2, 3, 4, 5, 6 and 7. Incineration of RMW that is also low-level radioactive waste-containing byproduct material shall be conducted in accordance with the permittee's U.S. Nuclear Regulatory Commission (NRC) Materials License No. 29-00117-06, 10 CFR Part 20 and 40 CFR Part 61, Subpart I, as applicable. The facility is authorized to operate twenty-four hours daily, seven days per week. The facility is restricted to combusting a maximum of 500 pounds per hour of any combination of waste types authorized for processing.

The incinerator is located under roof at one end of Building 91. Two storage areas, where waste is staged prior to incineration, are located within Building 91 adjacent to the incinerator. Putrescible wastes are stored in a refrigerated storage area and nonputrescible wastes are stored within the ambient temperature laboratory storage area. Laboratory wastes are stored in

cardboard, fiber drums and plastic containers, while sharps are containerized for safe handling in biohazard containers. Regulated medical waste will be maintained in a nonputrescent state at all times within a secure refrigerated storage area. Laboratory waste from building 72 is transported to the incinerator using front-end loaders. When enough waste is collected within the storage areas, the incinerator is scheduled for a burn cycle.

From the storage areas, wastes are transferred to the incinerator manually or by means of an overhead trolley hoist. The waste feeds are then logged, with the waste type and weight noted. Waste is charged into the incinerator directly through a hydraulically operated feed gate into the primary firing chamber by a ram feed mechanism. The dual chambered, controlled air incinerator operates with sufficient temperature and excess air to provide for proper volatilization and combustion of the waste. Primary combustion chamber temperatures are maintained between 1400 and 1600<sup>0</sup> Fahrenheit (F). Off-gases generated by the combustion of the waste exit the primary chamber and undergo further combustion in the secondary chamber, which provides a minimum of .88 second-residence exposure at temperatures in excess of 1500<sup>0</sup> F. The secondary combustion chamber is refractory-lined and provides a high-temperature, turbulent, oxidizing environment with sufficient residence time to complete the destruction of partially combusted organics. Auxiliary natural gas burners are used in both the primary and the secondary combustion chambers for preheating and maintaining the design operating temperatures in order to achieve complete oxidation. Flue gases are subsequently discharged to the atmosphere via the system stack.

Ash residue, predominantly that material that remains in the primary chamber after combustion is completed, is collected at the facility in an enclosed transfer and containment system. The ash is subject to analytical classification (on per-container basis) prior to its removal from the site

## Section I - General Conditions Applicable to All Permits

### 1. Duty to Comply

- (a) Pursuant to N.J.A.C. 7:26-2.8(i), the permittee shall operate the facility in compliance with the requirements of N.J.A.C. 7:26-2.11.
- (b) Pursuant to N.J.A.C. 7:26-2.8(j), the permittee shall operate the facility in conformance with all of the conditions, restrictions, requirements and any other provisions set forth in this permit.
- (c) Pursuant to N.J.A.C. 7:26-2.8(k), except for minor modifications as set forth at N.J.A.C. 7:26-2.6(d), the permittee shall not modify, revise or otherwise change any condition of this permit without prior written approval of the Department.

### 2. Duty to Reapply

- (a) Pursuant to N.J.A.C. 7:26-2.7(b)1, if the permittee wishes to continue the operation of this facility after the expiration date of this permit, the permittee shall apply for permit renewal at least 90 days prior to the expiration date of this permit, and the facility must be included in the District Solid Waste Management Plan at the time of such application.
- (b) Pursuant to N.J.A.C. 7:26-2.7(c), the conditions of this permit shall continue in force beyond the expiration date of this permit pursuant to the Administrative Procedure Act, N.J.S.A. 52:14B-11, until the effective date of a new permit if:
  - (1) The permittee has submitted a timely and complete application for a renewal permit pursuant to (a) above; and
  - (2) The Department, through no fault of the permittee, does not issue a new permit with an effective date on or before the expiration date of this permit, due to time or resource constraints.
- (c) Pursuant to N.J.A.C. 7:26-2.7(d), permits continued under said section remain fully effective and enforceable, and if the permittee is not in compliance with any one of the conditions of the expiring or expired permit the Department may choose to do any or all of the following:
  - (1) Initiate enforcement action based on the permit which has been continued;
  - (2) Issue a notice of intent to deny the new permit under N.J.A.C. 7:26-2.4. If the permit is denied, the permittee would then be required to cease activities and operations authorized by the continued permit or be subject to an enforcement action for operating without a permit;
  - (3) Issue a new permit under N.J.A.C. 7:26-2.4 with appropriate conditions; or

- (4) Take such other actions as are authorized by N.J.A.C. 7:26-1 *et seq.* or the Solid Waste Management Act, N.J.S.A. 13:1E-1 *et seq.*

3. Need to Mitigate

- (a) Pursuant to N.J.A.C. 7:26-2.8(p), should the Department determine that the facility is operating in an environmentally unsound manner, the permittee shall:
  - (1) Within 90 days of notification by the Department, submit a plan to close or environmentally upgrade the facility in conformance with the applicable standards, as determined by the Department and set forth in N.J.A.C. 7:26-1 *et seq.*;
  - (2) Within 90 days of receipt of written approval by the Department of the submitted plan, begin to close or construct the environmental upgrading at the facility; and
  - (3) Within one year of receipt of written approval by the Department of the submitted plan, complete closure or construction of the environmental upgrading at the facility.
- (b) Pursuant to N.J.A.C. 7:26-2.8(q), a one time extension of the compliance schedule established by N.J.A.C. 7:26-2.8(p) shall be granted by the Department provided the permittee demonstrates that it has made a good faith effort to meet the schedule.
- (c) Pursuant to N.J.A.C. 7:26-2.8(r), should the environmental upgrading required pursuant to N.J.A.C. 7:26-2.8(p) not be completed or should continued operations be determined by the Department to be environmentally unsound despite the implementation of the plan approved pursuant to N.J.A.C. 7:26-2.8(p), the facility shall temporarily or permanently cease operations and close or enter into receivership, as provided for in N.J.S.A. 13:1E-9, for that period of time necessary to rectify the environmentally unsound conditions.

4. Permit Actions

- (a) Pursuant to N.J.A.C. 7:26-2.6(a)1, if cause exists, the Department may modify, or revoke and reissue this permit, subject to the limitations of that section, and may require the permittee to submit an updated or new application in accordance with N.J.A.C. 7:26-2.6(e), if appropriate.
- (b) Pursuant to N.J.A.C. 7:26-2.6(b), the Department may modify or, alternatively, revoke and reissue this permit if cause exists for termination under N.J.A.C. 7:26-2.6(c) and the Department determines that modification or revocation and reissuance is appropriate.
- (c) Pursuant to N.J.A.C. 7:26-2.6(d), upon the request of the permittee, an interested party or for good cause, the Department may make certain minor modifications to a permit without issuing a tentative approval, providing public notice thereof or holding

a public hearing thereon.

- (d) Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Department, the permittee shall promptly submit such facts or information.

5. Signatory Requirements

- (a) All completed registration statements submitted by the permittee shall be signed as specified at N.J.A.C. 7:26-2.4(e)1.
- (b) All engineering designs and reports, the environmental and health impact statement, other information requested as "Addendums" by the Department pursuant to N.J.A.C. 7:26-2.4(f) and (g)4 and documents required to be submitted pursuant to N.J.A.C. 7:26-2.9 and 2.10, submitted on behalf of the permittee, shall be signed by a person described in N.J.A.C. 7:26-2.4(e)1 or by a duly authorized representative of that person, as specified at N.J.A.C. 7:26-2.4(e)2.
- (c) Any person signing a registration statement, engineering design or report, environmental and health impact statement or addendum mentioned in N.J.A.C. 7:26-2.4(e)1 or (e)2, submitted on behalf of the permittee, shall make the certification specified at N.J.A.C. 7:26-2.4(e)3.

6. Transfers

- (a) Pursuant to N.J.A.C. 7:26-2.8(l), the permittee shall not transfer ownership of the permit without receiving prior written approval of the Department, in accordance with N.J.A.C. 7:26-2.7(e).
- (b) Pursuant to N.J.A.C. 7:26-2.7(e)1, a written request for permission to allow any transfer of ownership or operational control of the facility must be received by the Department at least 180 days in advance of the proposed transfer. The request for approval shall include the following:
  - (1) A registration statement, completed by the prospective new permittee on forms provided by the Department;
  - (2) A disclosure statement as required by N.J.A.C. 7:26-16.4 completed by the proposed transferee;
  - (3) A written agreement between the permittee and the proposed new permittee containing a specific future date for transfer of ownership or operations.
- (c) Pursuant to N.J.A.C. 7:26-2.7(e)2, a new owner or operator may commence operations at the facility only after the existing permit has been revoked and a permit is issued pursuant to N.J.A.C. 7:26-2.4.
- (d) Pursuant to N.J.A.C. 7:26-2.7(e)3, the permittee of record remains liable for ensuring

compliance with all conditions of the permit unless and until the existing permit is revoked and a new permit is issued in the name of the new owner or operator.

- (e) Pursuant to N.J.A.C. 7:26-2.7(e)4, compliance with the transfer requirements set forth in that subsection shall not relieve the permittee from the separate responsibility of providing notice of such transfer pursuant to the requirements of any other statutory or regulatory provision.

7. Registration Statement

- (a) Pursuant to N.J.A.C. 7:26-2.8(b), prior to May 1 of each calendar year the permittee shall submit to the Department a statement updating the information contained in the permittee's initial registration statement. This update shall be on forms furnished by the Department. In no case shall submission of an updated statement alter conditions of this permit.
- (b) Pursuant to N.J.A.C. 7:26-2.8(c), the permittee shall notify the Department in writing within 30 days of any change in the information set forth in the permittee's current registration statement.
- (c) Pursuant to N.J.A.C. 7:26-2.8(d), failure of the permittee to submit an updated registration statement and to submit all applicable fees, required by N.J.A.C. 7:26-4, on or before July 1 of each calendar year shall be sufficient cause for the Department to revoke this permit or take such other enforcement action as is appropriate.

8. Operating Record and Reporting Requirements

- (a) The permittee shall maintain a daily record of wastes received. The record shall include the information specified at N.J.A.C. 7:26-2.13(a).
- (b) The daily record shall be maintained, shall be kept, and shall be available for inspection in accordance with N.J.A.C. 7:26-2.13(b).
- (c) The permittee shall submit monthly summaries of wastes received to the Division of Solid and Hazardous Waste, Bureau of Recycling and Planning and the Solid Waste Coordinator for the Somerset County District, on forms provided by the Department (or duplication of same), no later than 20 days after the last day of each month. The monthly summaries shall include the information specified at N.J.A.C. 7:26-2.13(e).
- (d) Pursuant to N.J.A.C. 7:26-6.4, upon request by the Department, the permittee shall submit, in such form as the Department may deem appropriate, information concerning the sources of wastes received and the transportation or disposal patterns associated with such wastes.

9. Conformance to the District Solid Waste Management Plan

Pursuant to N.J.A.C. 7:26-6.12(b), the permittee shall operate the facility in compliance with any applicable district solid waste management plan(s) as well as any amendments to and/or



approved administrative actions concerning such plan(s). Should the permittee fail to comply with any applicable district solid waste management plan(s) as well as any amendment to or approved administrative actions concerning such plan(s), the permittee shall be deemed in violation of N.J.S.A. 13:1E-1 *et seq.* and N.J.A.C. 7:26-1 *et seq.* and shall be subject to applicable penalties provided thereunder, and any other applicable laws or regulations.

10. Compliance with Other State Regulations and Statutes

Pursuant to N.J.A.C. 7:26-2.8(h), the issuance of this permit shall not exempt the permittee from obtaining all other permits or approvals required by law or regulations.

End of Section I

## Section II - General Operating Requirements

### 1. General Operating Requirements for Solid Waste Facilities Disposing of On-site Generated Waste

- (a) Pursuant to N.J.A.C. 7:26-2.11(b), the facility must be operated in compliance with the following general operating requirements:
- (1) Within each 24-hour period the operator shall clean each area where waste has been deposited or stored, except for those storage areas at thermal destruction facilities which are designed for multiple day storage capability.
  - (2) No waste shall be stored overnight at the facility without effective treatment to prevent odors associated with putrefaction.
  - (3) Facility property surrounding the actual disposal area shall be maintained free of litter, debris, and accumulations of unprocessed waste, process residues and effluents. Methods of effectively controlling wind-blown papers and other lightweight materials such as fencing shall be implemented at the facility.
  - (4) Methods of effectively controlling dust shall be implemented at the facility in order to prevent offsite migration.
  - (5) The operation of the facility shall not result in the emission of air contaminants in violation of N.J.A.C. 7:27-5.2(a).
  - (6) The operator shall maintain all facility systems and related appurtenances in a manner that facilitates proper operation and minimizes system downtime. When requested, the operator of the facility shall furnish proof that provisions have been made for the repair and replacement of equipment which becomes inoperative.
  - (7) An adequate water supply and adequate fire-fighting equipment shall be maintained at the facility or be readily available to extinguish any and all types of fires. Fire-fighting procedures as delineated in the approved operations and maintenance (O and M) manual, including the telephone numbers of local fire, police, ambulance and hospital facilities, shall be posted in and around the facility at all times.
  - (8) The operator shall effectively control insects, other arthropods and rodents at the facility by means of a program in compliance with the requirements of the New Jersey Pesticide Control Code, N.J.A.C. 7:30, and implemented by an applicator of pesticides, certified in accordance with the New Jersey Pesticide Control Code, N.J.A.C. 7:30.
  - (9) The operator shall at all times comply with the conditions of this permit, as

well as all other permits or certificates required and issued by the Department or any other governmental agency. The operator shall not receive, store, handle, process or dispose of waste types not specifically identified in Section III of this permit or other permit or certificate issued by the Department.

- (10) The quantity of waste received by the facility operator shall not exceed the system's designed handling, storage, processing or disposal capacity as identified in Section III of this permit or other permit certificate. The designed processing and disposal capacity approved within this permit, or any other permit certificate or approval conditions shall be inclusive of all solid waste received at the facility as well as all source separated recyclables received.
  - (11) The facility shall be operated in a manner that employs the use of the equipment and those techniques for the receipt, storage, handling, processing or disposal of incoming waste and process residues that are specifically authorized by this permit.
  - (12) The approved final O and M manual as referenced in Section III of this permit shall be maintained at the facility. A written description of any proposed changes to the approved, final O and M manual shall be submitted to the Department for review. These proposed changes shall not be implemented at the facility until the Department approves the changes.
- (b) Pursuant to N.J.A.C. 7:26-2.11(d), Department inspectors shall have the right to enter and inspect any building or other portion of the facility, at any time. This right to inspect includes, but is not limited to:
- (1) Sampling any materials on site;
  - (2) Photographing any portion of the facility;
  - (3) Investigating an actual or suspected source of pollution of the environment;
  - (4) Ascertaining compliance or non-compliance with any statutes, rules, or regulations of the Department, including conditions of the SWF permit or other permit or certificate issued by the Department; or
  - (5) Reviewing and copying all applicable records, which shall be furnished upon request and made available at all reasonable times for inspection.

## 2. General Operating Requirements for Small-scale Thermal Destruction Facilities

Pursuant to N.J.A.C. 7:26-2B.8, the facility must be operated in compliance with the following general operating requirements:

- (a) The owner or operator shall conduct inspections as indicated in the approved final O and M manual in order to identify and remedy any problems.
- (b) The owner and/or operator shall record the results of the inspections in a log book or by means of an electronic storage system approved by the Department which

shall be accessible at the facility at all times for inspection by the Department. These records shall include the date and time of the inspection, the name of the inspector, a notation of observations and recommendations and the date and nature of any repairs or other remedial actions taken.

- (c) The owner or operator shall implement a program that effectively prevents the acceptance of unauthorized waste types. This program shall be incorporated into the approved final O and M manual.
- (d) Should situations arise where the facility experiences equipment or system malfunction to the extent that the waste received cannot be handled or processed in the normal manner, as specified in this permit, then the operator shall notify the Department of the existence of such a situation and the circumstances contributing to the situation within the working day of its occurrence. The operator shall immediately pursue corrective measures. The continued receipt of wastes at the facility shall be limited to that quantity and type that can be handled, stored and processed in conformance with the facility's remaining approved operational capacity.
- (e) Arrangements for facility generated waste disposal shall be established and maintained throughout the life of the facility. These waste disposal arrangements shall be in conformance with the Solid Waste Management Plan of the District in which the facility is located and with the rules of the Department.
- (f) Unprocessed incoming waste, facility process waste residues and effluents, and recovered materials shall be stored in bunkers, pits, bins, or similar containment vessels and shall be kept at all times at levels that prevent spillage or overflow.
- (g) Samples and measurements taken for the purpose of monitoring facility process and treatment operations shall be representative of the process or operation and shall be performed in accordance with the conditions of this permit, as well as the requirements of other regulatory agencies where applicable. Monitoring shall be conducted through the use of continuous monitoring instrumentation, where feasible.
- (h) Prior to disposal, the owner and/or operator shall perform a waste determination on all residual ash, in accordance with N.J.A.C. 7:26G-6. Such determination shall be based on analyses of representative composite samples collected in the manner specified in Section III of this permit. At a minimum the sampling shall include analyses for toxicity characteristics and total dioxins and furans per EPA test method 1613B (EPA report 821/B-94-005) or equivalent as approved by the Department, and shall be performed at the frequency specified in Section III of this permit.
- (i) The Department may alter the list of ash test parameters, the methods of sample collection, the analytical procedures employed and the frequency of sampling and analysis deemed necessary. The permittee may request the Department to reduce the number of ash test parameters specified within Section III of this permit by

applying qualitative knowledge of incoming waste streams. If the owner and/or operator demonstrates through testing that the concentration of any given parameter is consistently below method detection levels as determined using the Toxicity Characteristic Leaching Procedure (TCLP), as defined in USEPA's Test Methods for Evaluating Solid Waste-Physical/Chemical Methods SW-846 (SW-846), or the concentration of any given parameter as determined using a total metals analysis, as defined in SW-846, is consistently below 20 times the regulatory threshold levels of the TCLP, the permittee may request the Department to eliminate those parameters from subsequent analysis.

- (j) The analyses required by (h) and (i) above shall be performed in accordance with procedures outlined in the most recent edition of "Test Methods for Evaluating Solid Waste-Physical/Chemical Methods," U.S.E.P.A. publication SW-846.
- (k) The results of ash analysis, including the statistical evaluation of the analytical data conducted in accordance with SW-846, and related quality assessment and quality control information pertaining to sample collection, handling and laboratory analytical methodology, shall be submitted to the Department for evaluation. The owner and/or operator shall dispose of the onsite generated residual ash at a facility authorized and permitted to receive the waste type I.D. number assigned to the residual ash by the Department in accordance with its classification.
- (l) The operator shall retain original records of all waste analyses and operations' monitoring reports at the facility for a period of three years from the date of measurement.
- (m) Records of operations' monitoring and waste analyses required above shall include:
  - (1) The date, time and place of sampling, measurement or analysis;
  - (2) Chain of custody for all samples collected;
  - (3) The name of the individual who performed the sampling, measurement or analysis;
  - (4) The sampling and analytical methods including the minimum detection levels for the analytical procedure utilized;
  - (5) The results of such sampling, measurement or analyses; and
  - (6) The signature and certification of the report by an appropriate authorized agent for the facility.
- (n) The owner and/or operator shall act to prevent accidental or unintentional entry and minimize the possibility for unauthorized entry into the facility. The facility shall have a 24-hour surveillance system which continuously monitors and controls entry to the facility or an artificial or natural barrier which completely surrounds the facility. In addition, the facility shall have a means to control entry at all times through the gates or other entrances to the facility.
- (o) The owner and/or operator shall comply with the following requirements

pertaining to facility staffing:

- (1) Facilities shall maintain sufficient personnel during each scheduled shift to assure the proper and orderly operation of all system components, along with the ability to handle all routine facility maintenance requirements. Such personnel shall have sufficient educational background, employment experience and/or training to enable them to perform their duties in such a manner as to ensure the facility's compliance with the requirements of the Solid Waste Management Act at N.J.S.A. 13:1E, N.J.A.C. 7:26-1 *et seq.*, and the conditions of this permit;
  - (2) Each shift shall have a designated shift supervisor authorized by the owner or operator to direct and implement all operational decisions during that shift; and
  - (3) A facility utilizing a boiler to generate steam, power or heat shall employ individuals licensed in accordance with the Rules and Regulations of the New Jersey Department of Labor, "Boilers, Pressure Vessels and Refrigeration," N.J.A.C. 12:90.
- (p) The owner and/or operator shall comply with the following requirements pertaining to facility personnel training:
- (1) All personnel who are directly involved in facility waste management activities or who operate, service, or monitor any facility equipment, machinery or systems shall successfully complete an initial program of classroom instruction and on-the-job training that includes instruction in the operation and maintenance of the equipment, machinery and systems which they must operate, service or monitor in the course of their daily job duties, and which teaches them to perform their duties in a manner that ensures the facility's compliance with the requirements of the Solid Waste Management Act at N.J.S.A. 13:1E, N.J.A.C. 7:26-1 *et seq.* and the conditions of this permit;
  - (2) The training program shall be directed by a person thoroughly familiar with the technology being utilized at the facility and the conditions of the facility's permits;
  - (3) The training program shall ensure that facility personnel are able to effectively respond to any equipment malfunction or emergency situation that may arise. The training program shall provide instruction in the use of personal safety equipment, procedures for inspecting and repairing facility equipment, the use of communications or alarm systems, the procedures to be followed in response to fires, explosions or other emergencies, and the procedures to be followed during planned or unplanned shutdown of operations;
  - (4) Employees hired shall not work in unsupervised positions until they have

completed the training program required herein;

- (5) Facility personnel shall take part in a planned annual review of the initial training program; and
  - (6) Training records that document the type and amount of training received by current facility personnel shall be kept until closure of the facility. Training records on former employees shall be kept for at least one year from the date the employee last worked at the facility.
- (q) The following actions shall be implemented in the case of an emergency:
- (1) The plant operator or emergency coordinator shall immediately identify the character, exact source, amount and extent of any discharged materials and notify appropriate State or local agencies with designated response roles if their help is needed;
  - (2) Concurrently, the plant operator or emergency coordinator shall assess possible hazards to public health or the environment that may result from the discharge, fire or explosion. This assessment shall consider both direct and indirect effects;
  - (3) If the plant operator or emergency coordinator determines that the facility has had an uncontrolled discharge, a discharge above standard levels permitted by the Department, or a fire or explosion, he or she shall:
    - (i) Immediately notify appropriate local authorities if an assessment indicates that evacuation of local areas may be advisable;
    - (ii) Immediately notify the Department at 1-877-WARNDEP; and
    - (iii) When notifying the Department, report the type of substance and the estimated quantity discharged, if known, the location of the discharge, the action the person reporting the discharge is currently taking or proposing to take in order to mitigate the discharge and any other information concerning the incident which the Department may request at the time of notification.
  - (4) The plant operator shall take all reasonable measures to ensure that fires, explosions and discharges do not recur or spread to other areas of the facility. These measures shall include, where applicable, the cessation of process operations and the collection and containment of released waste;
  - (5) Immediately after an emergency, the plant operator or emergency coordinator shall provide for treating, storing or disposing of waste contaminated soil or water or any other material contaminated as a result of the discharge, fire or explosion;
  - (6) The plant operator or emergency coordinator shall insure that no waste is processed until cleanup procedures are completed and all emergency

equipment listed in the contingency plan is again fit for its intended use;

- (7) The plant operator or emergency coordinator shall notify the Department and appropriate local authorities when operations in the affected areas of the facility have returned to normal; and
- (8) Within 15 days after the incident, the plant operator or emergency coordinator shall submit a written report on the incident to the Department. The report shall include, but not be limited to:
  - (i) The name, address and telephone number of the facility;
  - (ii) The date, time and description of the incident;
  - (iii) The extent of injuries, if applicable, with names and responsibilities indicated;
  - (iv) An assessment of actual damage to the environment, if applicable;
  - (v) An assessment of the scope and magnitude of the incident;
  - (vi) A description of the immediate actions that have been initiated to clean up the affected area and prevent a recurrence of a similar incident; and
  - (vii) An implementation schedule for undertaking measures to effect cleanup and avoid recurrence of the incident, if applicable.

3. General Operating Requirements for Regulated Medical Waste Destination Facilities

- (a) Pursuant to N.J.A.C. 7:26-3A.1(c), the permittee shall comply with N.J.A.C. 7:26-3A.1 *et seq.*
- (b) Pursuant to N.J.A.C. 7:26-3A.4(a), the length of time that the permittee shall keep records required under N.J.A.C. 7:26-3A is automatically extended in the case where EPA, the Department or another State agency initiates an enforcement action, for which those records are relevant, until the conclusion of the enforcement action.
- (c) Pursuant to N.J.A.C. 7:26-3A.4(b), all records, reports, logs and tracking forms required to be made and/or kept in accordance with N.J.A.C. 7:26-3A, shall be made available for inspection by the Department.
- (d) Pursuant to N.J.A.C. 7:26-3A.9, the supervisory personnel of the small scale thermal destruction facility that is the subject of this permit shall attend education and training sessions provided by the Department, and shall also be required to disseminate the information obtained at the sessions to all employees.
- (e) Storage of regulated medical waste shall be in conformance with N.J.A.C. 7:26-3A.12.
- (f) Pursuant to N.J.A.C. 7:26-3A.16(a) the permittee shall determine if waste is a regulated medical waste.



- (g) The permittee shall comply with the record keeping requirements at N.J.A.C. 7:26-3A.25.
- (h) The permittee shall comply with the reporting requirements at N.J.A.C. 7:26-3A.26.

End of Section II

### Section III - Specific Conditions Applicable to the Facility

#### 1. Permitted Waste Types

The permittee is authorized to accept the following waste types and the following regulated medical waste classes originating from the Merck & Co., Inc. Branchburg Farm:

<u>ID</u>	<u>Description</u>
27	Dry Industrial Waste
25	Animal and Food Processing Waste
Regulated Medical Waste	Classes 1,2,3,4,5,6 and 7. Incineration of Regulated Medical Waste that is also low-level radioactive waste-containing byproduct material shall be conducted in accordance with the permittee's U.S. Nuclear Regulatory Commission (NRC) License No. 29-00117-06, 10CFR Part 20 and 40 CFR Part 61, Subpart I, as applicable.

The permittee is not authorized to accept any other type or description of solid waste as defined at N.J.A.C. 7:26-2.13(g) and (h), regulated medical waste as defined at N.J.A.C. 7:26-3A.6(a), or hazardous waste as defined at N.J.A.C. 7:26G-1 *et seq.*

#### 2. Approved Designs, Plans and Reports

- (a) The permittee shall operate the facility, and construct or install associated appurtenances thereto, in accordance with the provisions of N.J.A.C. 7:26-1 *et seq.*, the conditions of this permit, and the following permit application documents which are incorporated herein by reference:
  - (1) "Solid Waste Facility Permit Application for the Merck Branchburg Farm", Document Number 4589-007-410, dated September, 1993, prepared by ENSR Consulting and Engineering, sealed and signed by John A. Balchan, P.E., August 26, 1993. The following drawings and documents are included with this submission:
    - (i) Standard Application Form CP#1 and the Solid Waste Supplement to Standard Application Form CP#1;
    - (ii) Application for Permit to Construct, Install or Alter Control Apparatus or Equipment and Certificate to Operate Control Apparatus or Equipment;
    - (iii) Zoning Map, Township of Branchburg, dated December 9, 1991, prepared by Hintz Associates, Inc., Pennington, New Jersey;
    - (iv) Branchburg Township Tax Map, Sheet 6 dated February, 1959, rev. October 1, 1991, prepared by Aero Service Corporation,

Philadelphia, Pennsylvania;

- (v) Affidavit of Exempt operator under N.J.S.A. 13:1E127.g;
  - (vi) Preliminary Operations and Maintenance Manual;
  - (vii) Engineering Report; and
  - (viii) Environmental and Health Impact Statement.
- (2) "Addendum to September, 1993 Solid Waste Facility Permit Application for Merck Branchburg Farm", Document Number 4589-007-600, dated December, 1993, prepared by ENSR Consulting and Engineering, and submitted by Jerry D. Fry, Merck & Co., Inc. The following drawings and documents are included with this submission:
- (i) Key Maps 1, 2, 3 and 4, (U.S.G.S. Base Map), prepared by ENSR Consulting and Engineering;
  - (ii) Vicinity Maps 1, 2 and 3;
  - (iii) Branchburg Township Tax Maps, Sheets 6.01, 14 and 15, revised October 1, 1992;
  - (iv) "Utility Plan", Drawing Sheet S-2, dated September 27, 1982, prepared by Donald H. Stires Associates, Somerville, N.J.;
  - (v) Metabolism Facility, Drawing Sheets Nos. 1, 2, 4 and 5, dated August 13, 1981, prepared by Keith G. Westenhaver, Architect;
- (3) Letter dated July 15, 1994, signed by Jerry D. Fry, Merck & Co., Inc., to Robert Ciolek, Division of Solid Waste Management, transmitting modifications to ash handling and security operations at the Branchburg Farm facility.
- (4) Letter dated February 15, 1995, signed by Jerry D. Fry, Merck & Co., Inc. to Herbert Gross, Division. of Solid Waste Management, transmitting the document entitled "Noise Measurements at Merck & Co., Inc. Branchburg Farm, January 26, 1995," dated January 31, 1995, prepared by Robert M. Earsy, Consultant, Lexington, Massachusetts
- (5) Letter dated March 17, 1995, -signed by Jerry D. Fry, Merck & Co., Inc. to Robert Ciolek, Division of Solid Waste Management, containing Merck commitment to shut down the Building 72 incinerator operation at Merck Branchburg Farm.
- (6) Letter dated January 5, 1996, signed by Joan Byars, Merck & Co., Inc., to Robert Ciolek, Division of Solid and Hazardous Waste, transmitting

various revisions to the Final Operations and Maintenance Manual.

- (7) Letter dated April 17, 1996, signed by Joan Byars, Merck & Co., Inc., to Herbert Gross, Division of Solid and Hazardous Waste, amending the Final Operations and Maintenance Manual to reflect the EPA methods used to analyze ash residue for 2,3,7,8-TCDD.
- (8) "Solid Waste Facility Permit Renewal Application" dated May 12, 2000.
- (9) "Addendum to the "Solid Waste Facility Permit Renewal Application" dated August 24, 2001 in response to the Division's notice of deficiency dated July 31, 2001.
- (10) Letter dated October 24, 2001, signed by Jerry D. Fry, Merck & Co., Inc., to Robert Confer, Division of Solid and Hazardous Waste, requesting the acceptance of regulated medical waste, classes 1, 2, & 6.
- (11) Letter dated October 21, 2002, signed by Jerry D. Fry, Merck & Co., Inc., to Robert Confer, Division of Solid and Hazardous Waste, providing revised ash containment, transfer and disposal procedures to be implemented at the facility.
- (12) Final Operations and Maintenance Manual titled "Merck & Co., Inc., Branchburg Farm, New Jersey Pathological/Medical Waste Incineration Operating & Maintenance Manual" last revised April 17, 1996.

In case of conflict, the provisions N.J.A.C. 7:26-1 *et seq.* shall have precedence over the conditions of this permit, the conditions of this permit shall have precedence over the SWF permit application documents listed above, and the most recent revisions and supplemental information approved by the Department shall prevail over prior submittals and designs.

- (b) One complete set of the permit application documents listed in Condition 2(a) above, this Solid Waste Facility Permit, and all records, reports and plans as may be required pursuant to this permit shall be kept on site and shall be available for inspection by authorized representatives of the Department upon presentation of credentials.
- (c) The permittee shall prepare and submit revised operation procedures that reflect those changes to ash sampling and analysis made by the Department at condition 4(b) of Section III of this permit. Copies of any affected pages of the Final Operations and Maintenance Manual shall be submitted to the Office of Permitting and Technical Programs in the Division of Solid and Hazardous Waste within sixty (60) days of the date of issuance of this permit.

### 3. Approved Operations

- (a) Waste Processing Rates

The facility shall process waste at a rate that does not exceed 500 pounds per hour.

(b) Hours of Operation

The delivery and/or processing of waste at the facility shall be limited to the following schedule:

Monday through Sunday, 24-Hours Daily

(c) Housekeeping

Routine housekeeping and maintenance procedures shall be implemented within the facility interior to prevent the excess accumulation of dust and debris, and to maintain general cleanliness in the working environment. Unprocessed waste feedstock and shall be stored in containers as specified in the referenced engineering plans listed at Condition 2 of this section. All facility floor drains, traps, sumps or similar catchment basins shall be maintained free of obstructions to facilitate effluent drainage.

4. Residue Management

(a) Process Residue Handling and Storage

Bottom ash residue collected from the primary combustion chamber shall be hosed down with water to prevent fugitive dusting prior to being shoveled into the two cubic yard watertight metal container. The container shall be wheeled as close to the work area as possible to prevent spillage during the transfer of ash and shall be lined with heavy-duty plastic preformed bags. Once the incinerator is emptied, the drawstring on the plastic liner shall be tied securely, the watertight lid shall be closed to cover the ash, and the hopper returned to its secure storage location outside the building enclosure.

All containers used to store the ash residue on the exterior of the facility shall be fully enclosed and watertight. Exterior container storage of ash residue shall be conducted within the area of the Merck & Co., Inc. Branchburg Campus designated for this purpose. The ash residue in storage shall be secured to prevent unauthorized access.

Ash residues shall be thoroughly extinguished to eliminate any fire hazard, and shall be handled in such a manner as to prevent fugitive dust and spillage. Ash residue containers shall not be filled to levels that permit overflow or spillage during handling, while in storage, or while being emptied into the truck for transport off site.

(b) Residual Ash Monitoring Program

A residual ash monitoring program shall be maintained by the permittee for the purpose of assessing the chemical characteristics of the ash residue generated by facility operations. Material sampling methods, sample preservation requirements, sample handling times and decontamination procedures for field equipment shall conform to applicable industry methods as specified in the NJDEP "Field

Sampling Procedures Manual." Other methods may be used on written approval from the Division of Solid and Hazardous Waste. As a minimum, this monitoring program shall consist of the following:

- (1) Analyses shall be conducted in accordance with the following schedule:

<u>TIME PERIOD</u>	<u>ANALYSIS:</u>	
	<u>Toxic Characteristic Leaching Procedure</u> (Frequency/ Test Parameter)	<u>Total Dioxins and Furans</u>
Confirmatory	Filled & Partially Filled Container / Eight Metals	Any stack-testing event conducted for dioxins
Recharacterization	As Required / Parameter Specific	N/A

- (2) For purpose of analysis, the residual ash generated by the facility shall be sampled in accordance with the following procedures:

(i) **TOXIC CHARACTERISTIC LEACHING PROCEDURE SAMPLING:**

By July 31<sup>st</sup> of each year, any and all filled and partially filled 2-cubic yard containers used to store the facility's accumulated bottom ash residue shall be cored using a device that provides for the stratified random sampling of the container's contents. The coring procedure implemented shall allow for the collection of the full vertical profile of the ash stored within each container. At a minimum, four (4) discrete core samples of bottom ash residue shall be recovered from the container. The coring locations within each container shall be randomly selected. The core samples may be composited into a single sample for analysis. The composite sample shall be thoroughly mixed as a preparatory step to analysis. Each sample or samples representing the annual accumulated ash residue shall be subject to analysis as prescribed for the Toxic Characteristic Leaching Procedure as is referenced at (1) immediately above.

(ii) **STACK-TESTING EVENT – DIOXIN ANALYSIS SAMPLING:**

During any stack-testing event measuring dioxin emissions to the atmosphere, at least one sample of bottom ash residue shall be collected from beneath the incinerator hearth at the end of each operating cycle, in such a manner that ensures each sample taken is representative of the waste burned during that cycle. Where multiple operating cycles are conducted during the term of the stack test, the samples collected from

each operating cycle shall be composited to form a sample representative of the ash residue generated during the stack-testing event. This sample shall be subject to analysis as prescribed for total dioxins and furans as is referenced at (1) immediately above using USEPA Test Method 1613B.

- (3) A new ash residue characterization shall be initiated if:
  - (i) there is a significant change in facility processes and/or operations;
  - (ii) there is a significant change in the type of waste(s) received for disposal at the facility; or
  - (iii) the results of the confirmatory analyses demonstrate that one or more of the parameters exceed the Toxic Characteristic Leaching Procedure regulatory limits.
- (4) Recharacterization analysis will be parameter-specific in the instance where the analysis indicates concentrations in the sample extract are above the defined regulatory threshold for that parameter, resulting in the waste residue requiring reclassification as a hazardous waste. Otherwise, analysis will include the full spectrum of listed TCLP parameters. Ash residue subject to recharacterization shall be sampled in accordance with procedures outlined in (2) immediately above, or shall be in accord with a revised sampling protocol set forth by the permittee and approved by the Department. During a residue recharacterization period, all ash residue generated shall be stored on-site until the analytical results are received, and a determination is rendered on the hazardous or nonhazardous nature of the material. At the completion of the recharacterization test period, the confirmatory ash residue sampling and analysis regimen outlined above, shall not be reinstituted without express written approval from the Division of Solid and Hazardous Waste.
- (5) All analyses called for as a condition of this permit shall be performed by a laboratory approved and/or certified by the Department for those specific analyses. The permittee shall submit each set of analytical results to the Division of Solid and Hazardous Waste upon the receipt of said results.

5. Operations Records

- (a) In addition to the operating record and reporting requirements of Condition 8 of Section I of this permit and of Condition 3 of Section II of this permit, the permittee shall maintain the following records of facility operations on a daily basis:
  - (1) The quantity (by weight) of waste charged to the incinerator for each hour of operation.
  - (2) The daily total weight of waste and RMW incinerated for each day of facility operation; and

- (3) The quantity (by weight) of bottom ash transported off site for disposal on any given day. Include the date of transport, the name, address and NJDEP registration number of the transporter, and the name and address of the disposal facility that receives the ash.
- (b) The permittee shall submit a report containing the information required by (a) (2) and (3) immediately above, on a semi-annual basis. This report shall be submitted to the Bureau of Resource Recovery and Technical Programs no later than 20 days after the last day of the semi-annual reporting period. All reports shall be signed, certified, and dated by an appropriate authorized agent for the facility.
- (c) Any printed or electronically recorded data generated by the facility's monitoring and control systems shall be maintained at the facility, and shall be available for inspection in accordance with N.J.A.C. 7:26-2.13(b).

End of Section III